

IN THE DRAWINGS:

Please replace Fig. .4 with Fig. 4 as found on the Replacement Sheet attached hereto.

LAW OFFICES
DENNISON, SCHULTZ & MACDONALD
SUITE 105
1727 KING STREET
ALEXANDRIA, VIRGINIA 22314-2700
703 837-9600

REMARKS

The Office Action of February 5, 2008, has been carefully considered.

Objection has been raised to the specification based on the use of the term "TOP technology" and the specification has now been amended to make the appropriate corrections.

Objection has been raised to the drawings on the basis that the preform 48 is not shown. Applicants have now submitted an amended Figure 4, in which numeral 58 has been replaced by numeral 48, thus correctly showing preform 48. In addition, objection has also been raised that reference numeral 18 in Figure 1 is not mentioned in the specification. The specification has now been amended on page 8 to change numeral 16 to numeral 18, and reference numeral 18 is now described in the specification. The description of Figs. 4 and 5 on page 12 has also been corrected.

Objection has been raised to Claims 7 and 20, and these claims have now been canceled and replaced by claims in proper format.

Claims 1 through 29 have been rejected under 35 USC 112, second paragraph, as being indefinite in the use of certain terminology, and these claims have now been canceled and replaced by a new set of Claims 30 through 58, written in proper form for U.S. practice. Withdrawal of this rejection is requested.

Claims 1-8, 10-12, 17-18, 20 and 25-29 have been rejected under 35 USC 103(a) over Krenkel et al in view of Mattheij et al.

The invention is directed to a tribological fiber component comprising a structure having at least one preform comprising a base layer with stressable reinforcing fibers deposited on the base layer and connected with the base layer by stitching using Tailored Fiber Placement (TFP) technology

to form the preform. The preform is stabilized by at least one of deposition of material from the gas phase, and providing at least one of a monomer and/or polymer, and subsequently hardening and pyrolyzing.

Krenkel et al relates to a friction element formed of single fiber layers in which fibers in different orientation can be arranged. In the method disclosed, a core body 1 and a friction body 2 are placed face to face in a conditioning unit and fluid silicon is infiltrated into the gap between the bodies and then ceramicized.

Krenkel et al does not disclose stitching the reinforcing bodies to the base layer using TFP, and Mattheij et al has been cited for this purpose.

Certainly, TFP preforms are known. However, Mattheij et al does not disclose or suggest the use of preform for producing tribological fiber composite components. Moreover, the other references cited in the Office action which are directed to reinforced composites, such as Bilisik, Doucette et al and Hecht, also do not disclose or suggest stitching together using TFP. While it may be obvious in hindsight to use TFP for this purpose, it certainly was not obvious at the time the inventions described in the above-cited patents were made, and it was not obvious at the time the claimed invention was made.

Indeed, the use of TFP makes possible the use of preforms which differ from one another in fiber volumes, layer density, fiber lengths and fiber placement direction, as is recited in present Claim 33.

Method Claim 58 has been added to the application, directed to a method for producing a tribological composite component comprising producing at lease one stressable preform by depositing reinforcing fibers on a base layer as recited in Claim 30, stitching the reinforcing fibers on the base layer

by TFP, forming a structure corresponding to the fiber composite component comprising the preform and stabilizing the structure by depositing the material from the gas phase or by impregnating and subsequently hardening and pyrolyzing.

These method steps are not disclosed or suggested by the cited references.

Withdrawal of this rejection is requested.

Claims 13-16, 21, 22 and 24 have been rejected under 35 USC 103(a) over Krenkel et al in view of Mattheij et al and further in view of Bilisik. Bilisik has been cited for disclosure of a three-dimensional multiaxial circular woven fabric for use a preform, but also does not disclose or suggest the use of TFP to stitch the fiber layer onto the base layer of Krenkel et al. Withdrawal of this rejection is requested.

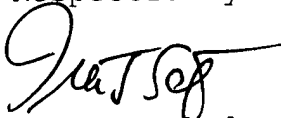
Claim 9 has been rejected under 35 USC 103(a) over Krenkel et al in view of Mattheij et al and further in view of Hecht. Hecht has been cited to show fiber composites intended for use in applications where severe shear stresses will be encountered and teaches that webs which are composed of random filaments take the form of thin felts and papers with low bulk densities. Hecht also does not disclose or suggest the use of TFP to stitch the fiber layer to the base layer, and withdrawal of this rejection is requested.

Claims 19 and 23 have been rejected under 35 USC 103(a) over Krenkel et al in view of Mattheij et al and further in view of Doucette et al. Doucette et al has been cited to show a 3-D reinforced composite including a high density fabric-based layer stitched together with a fiber layer using a temperature-resistant thread. Doucette et al also does not disclose the use of TFP for the recited purpose, and withdrawal of this rejection is requested.

In view of the foregoing amendments and remarks,

Applicants submit that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,



Ira J. Schultz
Registration No. 28666
Attorney for Applicants
(703)837-9600, ext. 23

LAW OFFICES
DENNISON, SCHULTZ & MACDONALD
SUITE 105
1727 KING STREET
ALEXANDRIA, VIRGINIA 22314-2700
703 837-9600